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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,900	06/23/2003	Thomas J. Qi	15559-2	7546

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EXAMINER
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ALPERT, JAMES M

ART UNIT	PAPER NUMBER
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3624

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/601,900

Applicant(s)

QI ET AL.

Examiner

James Alpert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/03/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

The application has been examined, and Claims 1-11 are pending. The objections and rejections are as stated below.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. §101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. §101 requires that in order to be patentable the invention must be a "new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof" (emphasis added).

**Claims 1-11** are rejected under 35 U.S.C. §101 because the claimed invention is directed to a non-statutory subject matter. Specifically the method claims as presented do not claim a technological basis in the pre-amble nor in the body of the claim. Without a claimed basis, the claim may be interpreted in an alternative as involving no more than a manipulation of an abstract idea and therefore non-statutory under 35 U.S.C. §101.

In contrast, a method claim that includes in the body of the claim, some structural / functional interrelationship which is computer implemented is considered to have a technological basis [See Ex parte Bowman, 61 USPQ2d 1669, 1671 (Bd. Pat. App. & Inter. 2001) - used only for content and reasoning since not precedential].

Claims 1-11 are directed toward a method of evaluating a portfolio of leased depreciable items. However, the preamble and the body of the

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independent claims do not indicate that any system or apparatus with in the technological arts executes the methods or performs the statistical analyses.

Appropriate correction is suggested.

***Claim Rejections - 35 USC § 101***

**Claims 1-11** are further rejected under 35 U.S.C. 101 for the following additional reason. In order that a claimed invention be rendered statutory under 35 U.S.C. 101, it must be limited to a practical application, i.e. it must produce "useful, tangible and concrete result." (MPEP 2600.II.A.) The independent claims recite the limitation "acting on the evaluation." This limitation fails to positively recite that certain items in the portfolio (leases themselves) either be sold or traded, or that financial reserves be adjusted up or down. Further, the possibility exists that no action could be taken at all depending on the results of the analyses. Due to this indefiniteness of the recited claim language the claimed invention fails to produce a produce a "useful, concrete and tangible" result. (See MPEP 2106.IV.B.2.(b).ii for discussion of Practical Application). The claim is therefore, is directed to non-statutory subject matter, i.e. an abstract idea without limitation to a practical application and are analyzed as non-statutory subject matter under 35 U.S.C. 101.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention

**Claim 1-11** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter

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which Applicant regards as the invention. In particular, the independent claims recite the limitations of, "calculating a reserve level appropriate to the portfolio; and acting on the evaluation." The claims seem to consider that for any given portfolio, upon evaluation, a certain level of cash must be reserved to account for miscalculation in residual values. It is unclear exactly what should occur should the current configuration of portfolio items be found to be reasonably financially sound. Further, the possibility exists that individual leases could be transferred or sold to balance the portfolio. There are several possible courses of action, and each possible condition needs to be addressed. Appropriate correction is suggested.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 USC 103(a) as being unpatentable over Eichorst et al., U.S. Patent #6502080 in view of Cooper et al., U.S. Patent Application Publication #20020198797.

**With regard to Claim 1**, Eichorst teaches the method comprising:

providing data on leased items;  
(Col. 3, line 25-44, Col. 4 lines 15-24)

providing data on market forecasts;  
(Col. 5 lines 43-45)

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Eichorst does not expressly teach the method further comprising:  
providing historical data on similar leased items;

However, Cooper does teach this limitation at (Col. 2, Para. 42). It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to combine the teachings of Eichorst relating to predicting a net reserve for a vehicle portfolio based on timing considerations of events with the teachings of Cooper relating to estimating residual lease loss using historical data. The motivation for such a combination is to provide greater accuracy in results of an analysis by using multiple statistical techniques.

Continuing, Eichorst teaches the method further comprising:  
assigning dates and dollar values of the leased item on those dates subject to occurrences of uncertain timing;  
(Figure 2, items 204,206)  
estimating residual value of the lease portfolio subject to the assigned dates and dollar values;  
(Figure 2, item 208)  
calculating a reserve level appropriate to the portfolio;  
(Figure 4, items 406,408)  
acting on the evaluation.  
(Figure 4, item 412)

**With regard to Claim 2**, Eichorst does not teach the method wherein:  
estimating residual value of the lease portfolio subject to the assigned dates and dollar values comprises estimating residual value of the lease portfolio subject to uncertain circumstances by Monte-Carlo analysis.

However, the examiner takes Official Notice that utilizing a Monte-Carlo simulation comprising random numbers to determine events is an old and well-known technique in the art. As such, it would have been obvious to one of

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ordinary skill in the art at the time applicant's invention was made to combine the teachings of Eichorst relating to predicting a net reserve for a vehicle portfolio to include a Monte-Carlo analysis of the uncertain occurrences involved in automobile leasing. The motivation for such a combination is to provide greater accuracy in results of an analysis by using multiple statistical techniques.

**With regard to Claim 3,** Eichorst teaches the method further comprising:

assigning dates of occurrences to each lease.  
(Figure 2, item 204; Figure 3, item 304)

**With regard to Claim 4,** Eichorst teaches the method further comprising:

assigning dates of occurrences for each lease, including one or more event dates selected from the group consisting of

early termination date,  
(Col. 6 lines 1-2)

purchase termination date,  
(Col. 6 lines 3-4)

return termination date  
(Col. 6 lines 1-2)

purchase sale date  
(Col. 6 lines 30-34)

return sale date.  
(Col. 6 lines 30-34)

**With regard to Claim 5,** Eichorst teaches the method further comprising:

assigning dollar values representing a forecast value the leased item to the dates of occurrences for each lease.  
(Col. 5 lines 43-45)

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**With regard to Claim 6**, Eichorst does not expressly teach the step further comprising:

assigning dollar values to the dates of occurrences for each lease wherein the dollar values are adjusted to reject a lessor's own experience at auctions for the sale of previously leased items.

However, Cooper does teach this limitation at (Col. 3, Para. 45). Further, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to combine the teachings of Eichorst relating to predicting a net reserve for a vehicle portfolio based on assigning dollar values in relation to probabilities of occurrence with the teachings of Cooper relating to estimating residual lease loss, taking into account adjustments made as a result of the lessor's personal experience with auctions. The motivation for such a combination is to provide greater accuracy in results of an analysis by using multiple statistical techniques with a greater number of observations.

**With regard to Claim 7**, Eichorst teaches many of the limitations of this claim including:

providing data on leased items;  
(Col. 3, line 25-44, Col. 4 lines 15-24)

providing data on market forecasts;  
(Col. 5 lines 43-45)

providing historical value and lease performance data for similar leased items;  
calculating depreciation data;  
(Col. 4 line 58 – Col. 5 line15)

calculating the predicted forecast market value for each leased item over the duration of the lease;  
(Figure 2, items 200-210)



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Eichorst does not expressly teach the step comprising:

adjusting the market forecast value to reflect prior lessor auction results;

However, Cooper does teach this limitation at (Col. 3, Para. 45). It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to combine the teachings of Eichorst relating to predicting a net reserve for a vehicle portfolio based on calculated market values with the teachings of Cooper relating to estimating residual lease loss, taking into account adjustments made as a result of the lessor's personal experience with auctions. The motivation for such a combination is to provide greater accuracy in results of an analysis by using multiple statistical techniques. Continuing, Eichorst teaches:

calculating the forecast price of an item as if it is purchased at the end of the lease period;  
(Col. 6 lines 30 – 44)

assigning dates of occurrences for each lease, including one or more event dates selected from the group consisting of early termination date, purchase termination date, return termination date, purchase sale date, and return sale date;  
(see Claim 4 above)

assigning based on probabilities the outcome of each lease account item as purchased, returned, or lease terminated early;  
(Col. 5 line 63 – Col. 6 line 7)

calculating the predicted end of lease market value for each leased item at the completion of each lease, the completion type and date based on probabilities;  
(Col. 6 lines 30 – 44)

estimating residual value of the lease portfolio subject to the predicted course for each lease account;  
(Col. 6 lines 6-20)

reporting the results of the analysis;  
(Figure 3, item 306)

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calculating a reserve level appropriate to the portfolio;  
(Figure 4, item 408)

acting on the evaluation.  
(Figure 4, item 412)

**With regard to Claim 8**, Eichorst does not expressly teach the method:

wherein assigning dates of occurrences for each lease further comprises assigning by non-parametric Monte-Carlo analysis dates of occurrences for each lease, including one or more event dates selected from the group consisting of early termination date, purchase termination date, return termination date, purchase sale date, and return sale date.

The factors considered in this limitation have been analyzed under Claim 4. Further, the examiner takes Official Notice that utilizing a Monte-Carlo simulation comprising random numbers to determine events is an old and well-known technique in the art. As such, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to combine the teachings of Eichorst relating to predicting a net reserve for a vehicle portfolio to include a Monte-Carlo analysis of the uncertain timing occurrences involved in automobile leasing. The motivation for such a combination is to provide greater accuracy in results of an analysis by using multiple statistical techniques.

**With regard to Claim 9**, Eichorst teaches the method wherein:

calculating the forecast price of an item as if it is purchased at the end of the lease period further comprises calculating by non-parametric Monte-Carlo analysis the forecast price of an item as if it is purchased at the end of the lease period. (Col. 6 lines 30-44; Figure 3, item 304)

**With regard to Claim 10**, Eichorst teaches the method wherein:

assigning based on probabilities the outcome of each lease account item as purchased, returned, or lease terminated early assigning based on probabilities further comprises assigning based on probabilities as calculated through non-

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parametric Monte-Carlo analysis, the outcome of each lease account item as purchased, returned, or lease terminated early.  
(Col. 5 lines 21-30)

**With regard to Claim 11**, Eichorst does not expressly teach the method wherein:

adjusting the market forecast value to reflect prior lessor auction results further comprises adjusting the market forecast value through parametric Monte-Carlo analysis, to reflect prior lessor auction results.

Using prior auction results has been analyzed under Claim 6. In addition the examiner takes Official Notice that utilizing a Monte-Carlo simulation comprising random numbers to determine events is an old and well-known technique in the art. As such, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to combine the teachings of Eichorst in view of Cooper relating to predicting net reserve management for a vehicle lease portfolio to include a Monte-Carlo analysis of historical auction results. The motivation for such a combination is to provide greater accuracy in results of an analysis by using multiple statistical techniques.

### ***Conclusion***

The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a) Abbott et al., U.S. Patent Application #20040236641, November 25, 2004, Economic Supply Optimization.
- b) Breeden et al., U.S. Patent Application #20030225659, December 4, 2003, Retail Lending Risk Related Scenario Generation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Alpert whose telephone number is

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(703) 305-4001. The examiner can normally be reached on M-F 9:00-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on (703) 308-1065. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James M. Alpert  
January 24, 2005

*Alan J. Barbo*  
PRIMARY  
AU 3624